Complete Summary

GUIDELINE TITLE

Burns.

BIBLIOGRAPHIC SOURCE(S)

Work Loss Data Institute. Burns. Corpus Christi (TX): Work Loss Data Institute; 2005. 43 p. [58 references]

GUIDELINE STATUS

Note: This guideline has been updated. The National Guideline Clearinghouse (NGC) is working to update this summary.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Work-related burns

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Dermatology
Family Practice
Internal Medicine

INTENDED USERS

Advanced Practice Nurses
Health Care Providers
Health Plans
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To offer evidence-based step-by-step decision protocols for the assessment and treatment of workers' compensation conditions

TARGET POPULATION

Workers with occupational minor burns

INTERVENTIONS AND PRACTICES CONSIDERED

The following interventions/procedures were considered and recommended as indicated in the original guideline document:

1. 2400 mOsm solutions (hypertonic 7.5% NaCl 6% dextran (HSD)
2. Acticoat
3. Activity restrictions/Work modifications
4. Apligraf® (Graftskin)
5. Benzodiazepines
6. Citalopram
7. Cooling with ice or cold water
8. Early tangential excision (and skin grafting)
9. Enteral feeding
10. Euglycemic hyperinsu-linemia
11. Flucloxacillin
12. High frequency percussive ventilation (HFPV)
13. Human allogeneic epidermal sheets
14. Insulin, with or without glucose
15. Itch control (combination of cetirizine and cimetidine)
16. Massage therapy with cocoa butter
17. Moist exposed burn ointment (MEBO)
18. Music therapy
19. Oxandrolone
20. Propranolol
21. Recombinant bovine basic fibroblast growth factor (rbFGF)
22. Topical silver sulfadiazine combined with cerium nitrate
23. Sucralfate cream
24. Teicoplanin
25. Topical corticosteroid treatments
26. Topical local anesthesia
27. Tourniquet use
28. TransCyte
29. Trimethoprim-sulfamethoxazole (TMP-SMX)

The following interventions/procedures are under study and are not specifically recommended:

1. Honey dressing
2. Burn size calculations
3. Early tracheostomy (ET)
4. Hyperbaric oxygen therapy
5. Physical therapy
6. Psychological debriefing (PD)
7. Skin grafts
8. Therapeutic touch

The following interventions/procedures were considered but are not recommended:

1. Dexamethasone
2. Growth hormone
3. Immune-enhancing diet (IEDs)
4. Interferon-gamma-1b (IFN-gamma)
5. Lignocaine - prilocaine (EMLA) cream
6. Potato peel
7. Therapeutic ultrasound

MAJOR OUTCOMES CONSIDERED

Effectiveness of treatments in relieving pain, controlling infection, and wound healing

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Ranking by quality within type of evidence:

a. High Quality
b. Medium Quality
c. Low Quality

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Not stated

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not applicable

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note: This guideline has been updated. The National Guideline Clearinghouse (NGC) is working to update this summary. The recommendations that follow are based on the previous version of the guideline.

Introduction

This guideline focuses on the adult patient of working-age. The evaluation will vary depending upon the severity and chronic nature of the problem and on the difficulty of reaching a diagnosis. Burns are common in the industrial setting. They are generally classified into minor, moderate, and major. Fortunately, major burns

make up only 5% to 7% of all burns. However, as they do require treatment in a burn center, only their initial therapy will be discussed in these guidelines. The physician should verify that the injury is occupational in order to avoid conflicts over whether the claim should be filed as an occupational claim or as an indemnity claim covered under health insurance.

The purpose of this guideline is to assist the practicing physician in reaching a correct diagnosis and to outline accepted therapies for the injury. The guideline is designed to enhance the physician's decision-making process.

Initial Evaluation and Presumptive Diagnosis for Burn Injuries

Prior to any treatment or therapy, an initial evaluation gathering history and information about the injury and the patient must be performed to assess the nature of the injury. The injury should then be classified into a presumptive diagnosis, which will dictate the path of care that should be followed. After a complete definitive evaluation is finished, the injury may, in some cases, need to be reclassified.

A. Initial Evaluation
    - Determine the causative agent (flame, hot liquid, hot tar, chemicals, irradiation, or electrical equipment). In cases of electrical burns, the extent of the injury correlates with the voltage of the electrical shock. Therefore, it is valuable to ascertain this information whenever possible. With electrical burns, the cardiac status of the patient must be assessed for cardiac injury or arrhythmia, which are relatively common.
    - Assess the extent and depth of the burn.
    - Make a general assessment of the patient's status including pulse, respiration rate, any difficulty breathing, evidence of shock, and a review of fluid needs.
    - Grade the patient's pain on a scale of 0-1-2-3-4-5, with 0 being no pain and 5 being high pain. (Or, a 0-10 scale may be used.)
    - Identify any associated fractures or other major trauma.
    - Determine any present medication.
    - Determine the patient's immunity status for tetanus.
    - Determine any previous medical history, history of systemic disease, or previous burn injury or disability.

B. Presumptive Diagnosis (see original guideline document for ICD-9 codes for minor, moderate, major, and special [chemical, electrical, and difficult sites] burns).

Minor Burns (other burns justify immediate referral to a burn specialist)

A. Definitive Diagnosis Completed
B. Initial Therapy
    - Manage the burn area with sterile technique as the major complication of a burn is infection. Prevention of infection is a major goal of therapy.
    - Cleanse gently to remove any foreign matter.

- Apply a sterile cold or ice saline compress to the burn area for up to 20 minutes. Avoid direct contact of ice to the skin.
- Under sterile conditions, apply a webbed medicated gauze to the burn area and cover with a bulky loose webbed bandage dressing.
- Give tetanus toxoid when appropriate.
- Prescribe analgesics. Initially give by injection, if necessary, to assist in the cleansing and dressing of the burn. Then give orally for three to five days.
- Redress under sterile conditions with a webbed medicated gauze dressing every three to five days until healed.
- The routine use of oral antibiotics is not necessary or proven to reduce the incidence of serious infection or hasten healing. However, if there is evidence of infection, prescribe oral broad-spectrum antibiotics.
- Many minor burns are completely healed in less than 10 days.
- Consultation or referral to a burn specialist is appropriate for patients with third degree burns because most require grafting.
- Estimate a return-to-work date for temporary transitional and regular work at each visit.
- Prescribe level of activity at work and job modifications at each visit.

C. Secondary Evaluation for Patients with Minimal Improvement after 7-10 Days of Therapy
    - If the burn is not healing well by this time, perform a careful evaluation for infection, vascular compromise, diabetes, and other systemic factors, which may delay healing.
    - Review history to make sure that the patient is complying with the prescribed care of the burn.
    - Review for superimposed infection.
    - Redress the burn if any signs of infection exist, prescribe antibiotics, and immobilize the injured part.
    - Re-evaluate every three to four days. If healing does not progress by 7-10 days, refer to a specialist.

Official Disability Guidelines (ODG) Return-To-Work Pathways - Burn of Face, Head, and Neck

First degree: 0 days

Second degree: <3 square inches: 0 days

Second degree: ≥3 square inches: 10 days

Third degree: <3 square inches: 21 days

Third degree: ≥3 square inches: 28 days

Third degree: >30 square inches (1% body surface area [BSA]), modified work: 56 days

Third degree: >30 square inches (1% BSA), regular work: 70 days

ODG Return-To-Work Pathways - Burn of Trunk

First degree: 0 days

Second degree: <3 square inches: 0 days

Second degree: ≥3 square inches: 10 days

Third degree: <3 square inches, clerical/modified work: 21 days

Third degree: ≥3 square inches, clerical/modified work: 28 days

Third degree: >30 square inches, clerical/modified work: 56 days

Third degree: <3 square inches, manual work: 21 days

Third degree: ≥3 square inches, manual work: 35 days

Third degree: >30 square inches, manual work: 70 days

ODG Return-To-Work Pathways - Burn of Limb

First degree: 0 days

Second degree: <3 square inches: 0 days

Second degree: ≥3 square inches: 10 days

Third degree: <3 square inches: 14 days

Third degree: ≥3 square inches: 28 days

Third degree: >30 square inches, modified work: 56 days

Third degree: >30 square inches, regular work: 70 days

ODG Return-To-Work Pathways - Burn of Multiple Sites

First degree: 0 days

Second degree: <3 square inches: 0 days

Second degree: ≥3 square inches: 14 days

Third degree: <3 square inches: 21 days

Third degree: ≥3 square inches: 35 days

Third degree: >30 square inches, modified work: 70 days

Third degree: >30 square inches: 84 days

(See ODG Capabilities & Activity Modifications for Restricted Work under "Work" in the Procedure Summary of the original guideline document)

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

During the comprehensive medical literature review, preference was given to high quality systematic reviews, meta-analyses, and clinical trials over the past ten years, plus existing nationally recognized treatment guidelines from the leading specialty societies.

The type of evidence associated with each recommended or considered intervention or procedure is ranked in the guideline's annotated reference summaries.

Ranking by Type of Evidence:

1. Systematic Review/Meta-Analysis
2. Controlled Trial-Randomized (RCT) or Controlled
3. Cohort Study-Prospective or Retrospective
4. Case Control Series
5. Unstructured Review
6. Nationally Recognized Treatment Guideline (from www.guideline.gov)
7. State Treatment Guideline
8. Foreign Treatment Guideline
9. Textbook
10. Conference Proceedings/Presentation Slides

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

These guidelines unite evidence-based protocols for medical treatment with normative expectations for disability duration. They also bridge the interests of the many professional groups involved in diagnosing and treating work-related burns.

POTENTIAL HARMS

Not stated

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Work Loss Data Institute. Burns. Corpus Christi (TX): Work Loss Data Institute; 2005. 43 p. [58 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2004 (revised 2005)

GUIDELINE DEVELOPER(S)

Work Loss Data Institute - Public For Profit Organization

SOURCE(S) OF FUNDING

Not stated

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

Note: This guideline has been updated. The National Guideline Clearinghouse (NGC) is working to update this summary.

GUIDELINE AVAILABILITY

Electronic copies of the updated guideline: Available to subscribers from the Work Loss Data Institute Web site.

Print copies: Available from the Work Loss Data Institute, 169 Saxony Road, Suite 210, Encinitas, CA 92024; Phone: 800-488-5548, 760-753-9992, Fax: 760-753-9995; www.worklossdata.com.

AVAILABILITY OF COMPANION DOCUMENTS

Background information on the development of the Official Disability Guidelines of the Work Loss Data Institute is available from the Work Loss Data Institute Web site.

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on April 4, 2005. This NGC summary was updated by ECRI on January 18, 2006.

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Date Modified: 10/9/2006